

Environmental Protection Agency

Pt. 98, Subpt. MM, Table MM-2

Products	Column A: density (metric tons/ bbl)	Column B: carbon share (% of mass)	Column C: emission factor (metric tons CO <sub>2</sub> /bbl)
<b>Oxygenates</b>			
Methanol .....	0.1268	37.48	0.1743
GTBA .....	0.1257	64.82	0.2988
MTBE .....	0.1181	68.13	0.2950
ETBE .....	0.1182	70.53	0.3057
TAME .....	0.1229	70.53	0.3178
DIPE .....	0.1156	70.53	0.2990
<b>Distillate Fuel Oil</b>			
Distillate No. 1			
Ultra Low Sulfur .....	0.1346	86.40	0.4264
Low Sulfur .....	0.1346	86.40	0.4264
High Sulfur .....	0.1346	86.40	0.4264
Distillate No. 2			
Ultra Low Sulfur .....	0.1342	87.30	0.4296
Low Sulfur .....	0.1342	87.30	0.4296
High Sulfur .....	0.1342	87.30	0.4296
Distillate Fuel Oil No. 4 .....	0.1452	86.47	0.4604
Residual Fuel Oil No. 5 (Navy Special) .....	0.1365	85.67	0.4288
Residual Fuel Oil No. 6 (a.k.a. Bunker C) .....	0.1528	84.67	0.4744
Kerosene-Type Jet Fuel .....	0.1294	86.30	0.4095
Kerosene .....	0.1346	86.40	0.4264
Diesel—Other .....	0.1452	86.47	0.4604
<b>Petrochemical Feedstocks</b>			
Naphthas (< 401 °F) .....	0.1158	84.11	0.3571
Other Oils (> 401 °F) .....	0.1390	87.30	0.4450
<b>Unfinished Oils</b>			
Heavy Gas Oils .....	0.1476	85.80	0.4643
Residuum .....	0.1622	85.70	0.5097
<b>Other Petroleum Products and Natural Gas Liquids</b>			
Aviation Gasoline .....	0.1120	85.00	0.3490
Special Naphthas .....	0.1222	84.76	0.3798
Lubricants .....	0.1428	85.80	0.4492
Waxes .....	0.1285	85.30	0.4019
Petroleum Coke .....	0.1818	92.28	0.6151
Asphalt and Road Oil .....	0.1634	83.47	0.5001
Still Gas .....	0.1405	77.70	0.4003
Ethane .....	0.0866	79.89	0.2537
Ethylene .....	0.0903	85.63	0.2835
Propane .....	0.0784	81.71	0.2349
Propylene .....	0.0803	85.63	0.2521
Butane .....	0.0911	82.66	0.2761
Butylene .....	0.0935	85.63	0.2936
Isobutane .....	0.0876	82.66	0.2655
Isobutylene .....	0.0936	85.63	0.2939
Pentanes Plus .....	0.1055	83.63	0.3235
Miscellaneous Products .....	0.1380	85.49	0.4326

<sup>1</sup> In the case of products blended with some portion of biomass-based fuel, the carbon share in Table MM-1 of this subpart represents only the petroleum-based components.

<sup>2</sup> Products that are derived entirely from biomass should not be reported, but products that were derived from both biomass and a petroleum product (i.e., co-processed) should be reported as the petroleum product that it most closely represents.

TABLE MM-2 TO SUBPART MM OF PART 98—DEFAULT FACTORS FOR BIOMASS-BASED FUELS AND BIOMASS

Biomass-based fuel and biomass	Column A: Density (metric tons/ bbl)	Column B: Carbon share (% of mass)	Column C: Emission factor (metric tons CO <sub>2</sub> /bbl)
Ethanol (100%) .....	0.1267	52.14	0.2422
Biodiesel (100%, methyl ester) .....	0.1396	77.30	0.3957

Biomass-based fuel and biomass	Column A: Density (metric tons/ bbl)	Column B: Carbon share (% of mass)	Column C: Emission factor (metric tons CO <sub>2</sub> /bbl)
Rendered Animal Fat .....	0.1333	76.19	0.3724
Vegetable Oil .....	0.1460	76.77	0.4110

### Subpart NN—Suppliers of Natural Gas and Natural Gas Liquids

#### § 98.400 Definition of the source category.

This supplier category consists of natural gas liquids fractionators and local natural gas distribution companies.

(a) Natural gas liquids fractionators are installations that fractionate natural gas liquids (NGLs) into their constituent liquid products (ethane, propane, normal butane, isobutane or pentanes plus) for supply to downstream facilities.

(b) Local Distribution Companies (LDCs) are companies that own or operate distribution pipelines, not interstate pipelines or intrastate pipelines, that physically deliver natural gas to end users and that are regulated as separate operating companies by State public utility commissions or that operate as independent municipally-owned distribution systems.

(c) This supply category does not consist of the following facilities:

(1) Field gathering and boosting stations.

(2) Natural gas processing plants that separate NGLs from natural gas and produce bulk or y-grade NGLs but do not fractionate these NGLs into their constituent products.

(3) Facilities that meet the definition of refineries and report under subpart MM of this part.

(4) Facilities that meet the definition of petrochemical plants and report under subpart X of this part.

#### § 98.401 Reporting threshold.

Any supplier of natural gas and natural gas liquids that meets the requirements of § 98.2(a)(4) must report GHG emissions.

#### § 98.402 GHGs to report.

(a) NGL fractionators must report the CO<sub>2</sub> emissions that would result from the complete combustion or oxidation of the annual quantity of ethane, propane, normal butane, isobutane, and pentanes plus that is produced and sold or delivered to others.

(b) LDCs must report the CO<sub>2</sub> emissions that would result from the complete combustion or oxidation of the annual volumes of natural gas provided to end-users on their distribution systems.

#### § 98.403 Calculating GHG emissions.

(a) LDCs and fractionators shall, for each individual product reported under this part, calculate the estimated CO<sub>2</sub> emissions that would result from the complete combustion or oxidation of the products supplied using either of Calculation Methodology 1 or 2 of this subpart:

(1) *Calculation Methodology 1.* NGL fractionators shall estimate CO<sub>2</sub> emissions that would result from the complete combustion or oxidation of the product(s) supplied using Equation NN-1 of this section. LDCs shall estimate CO<sub>2</sub> emissions that would result from the complete combustion or oxidation of the product received at the city gate using Equation NN-1. For each product, use the default value for higher heating value and CO<sub>2</sub> emission factor in Table NN-1 of this subpart. Alternatively, for each product, a reporter-specific higher heating value and CO<sub>2</sub> emission factor may be used, in place of one or both defaults provided they are developed using methods outlined in § 98.404. For each product, you must use the same volume unit throughout the equation.